

## Sine Law 5.3 p283-290

$$\frac{\sin \angle A}{a} = \frac{\sin \angle B}{b} = \frac{\sin \angle C}{c}$$



$$\frac{\sin \angle A}{a} = \frac{\sin \angle B}{b}$$

$$\frac{a}{\sin \angle A} = \frac{b}{\sin \angle B}$$

- non-right triangles
- need matching pair (determine scale of triangle)

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$180 - (45 + 35)$   
 $180 - 80$   
 $\angle A = 100$  (sum of int  $\Delta$ )

$\frac{\sin \angle B}{b} = \frac{\sin \angle C}{c}$   
 $\frac{\sin 45}{8} = \frac{\sin 35}{c}$   
 $\sin 45 (c) = \sin 35 (8)$   
 $c = \frac{\sin 35 (8)}{\sin 45}$   
 $c = \frac{(0.5736)(8)}{(0.7071)}$   
 $c = 6.5$

$\frac{\sin \angle B}{b} = \frac{\sin \angle A}{a}$   
 $\frac{\sin 45}{8} = \frac{\sin 100}{a}$   
 $\sin 45 (a) = \sin 100 (8)$   
 $a = \frac{\sin 100 (8)}{\sin 45}$   
 $a = \frac{0.9848 (8)}{0.7071}$   
 $a = 11.1$

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## Sine Law

p288-290

$$q, 3a, 4$$

$$a = 13$$

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$24\text{cm longer}$

$180 - (38 + 38)$   
 $= 180 - 76$   
 $= 104$

$\frac{\sin \angle B}{b} = \frac{\sin \angle A}{a}$   
 $\frac{\sin 38}{x} = \frac{\sin 38}{13}$   
 $\sin 38 (x) = \sin 38 (13)$   
 $(0.6157)(x) = (0.6157)(13)$   
 $0.6157x + 14.8 = 0.9994x$   
 $14.8 = 0.9994x - 0.6157x$   
 $14.8 = 0.3837x$   
 $0.3837x = 14.8$   
 $38.6 = x$

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